

REMARKS

The present Amendment is in response to the Examiner's Office Action mailed December 4, 2003 ("Office Action"). In the Office Action, the Examiner indicated that claims newly submitted in an Amendment dated 30 September 2003 were directed to an invention that is independent and distinct from the invention originally claimed and constructively elected by original presentation for prosecution on the merits. In particular, the Examiner stated that the originally presented claims 18-33 included providing power to a substrate from a second source. The independent claims submitted in the Amendment dated 30 September 2003 did not include this element.

Since the Examiner did not enter the Amendment dated 30 September 2003, applicant is submitting a new amendment showing changes from the claims as they existed prior to the Amendment submitted on 30 September 2003.

In this response, applicant has amended claims 18, 19, 22, 25 and 29; has canceled claims 20, 21, 23, 24, 27, 31 and 33-85 without prejudice; and has added new claims 86-104. As a result, claims 18, 19, 22, 25, 26, 28-30, 32 and 86-104 remain pending.

Independent claim 18 includes "providing power from a second source to a substrate support such that the substrate is exposed to plasma products within the processing chamber" as originally presented. Therefore, applicant believes that claim 18 as amended is drawn to the constructively elected invention as required by the Examiner. Claims 18, 19, 22, 25, 26, 28-30, 32 and 86-104 depend from claim 18 and, accordingly, are also believed to be drawn to the constructively elected invention as required by the Examiner.

The withdrawal of claims presented in the Amendment dated 30 September 2003 and the cancellation of other claims in this Amendment is without prejudice. Applicant reserves the right to pursue these and other claims in a continuation or divisional application.

Applicant believes that it has overcome the Examiner's restriction requirement and that the pending claims are patentable for the reasons described in the Amendment dated 30 September 2003, which are repeated below for convenience.

Independent claim 18, and the claims depending therefrom, were rejected as being anticipated or rendered obvious by US Patent No. 6,105,588 ("Li"), either alone or in view of U.S. Patent No. 5,292,370 ("Tsai") or U.S. Patent No. 4,961,820 ("Shinagawa"). The prior office action indicates that "Li et al teach a method as claimed. See the entire reference, especially Fig. 1, the related description and columns 3-7."

The Applicant respectfully traverses the rejection. Independent claim 18 as amended is directed at a method of removing photoresist using a hydrogen containing gas as the principal reactive gas at a pressure of less than about 200mTorr. Li describes processes from "about 0.5 to about 5 Torr, and preferably from about 2 to about 4 Torr." See column 4, lines 59-60. The examples in the tables in Li are at pressures of 2 Torr or 3 Torr. Therefore, independent claim 18 as amended is not anticipated by Li.

In addition, independent claim 18 is not rendered obvious by Li. Photoresist strip is typically performed at higher pressures to achieve viable processing rates and avoid damage to sensitive features on the substrate by high energy ions at low pressures. Li specifically teaches pressures above about 0.5 Torr and preferably even higher pressures of from about 2 Torr to 4 Torr. Since Li specifically teaches away from the claimed invention, claim 1 is not rendered obvious by Li.

The other references cited by the Examiner do not avoid the deficiency of Li. Shinagawa discloses a pressure of about 0.8 Torr at column 7, line 48. The Examiner also cited Tsai as teaching lower pressures. Tsai discloses an ECR microwave plasma source developed to produce plasmas of argon, helium, hydrogen, oxygen, etc., at operating pressures in the range from 0.1 to 10 mTorr. See column 3, lines 50-52. While Tsai discloses a plasma source capable of producing a low pressure plasma, it does not teach a method of removing photoresist using a hydrogen containing gas as the principal reactive gas at a pressure of less than about 200mTorr. Li specifically teaches away from the use of the pressures disclosed in Tsai for the processes disclosed in Li. While Li discloses that other types of plasma sources may be used to produce the plasma used for the processes disclosed in Li, Li does not teach that the pressure and other properties of the plasma used for such processes may be arbitrarily changed and in fact suggests that higher pressures are preferred. As described above, higher pressures are typically used for photoresist strip (as opposed to certain types of anisotropic ion etch for other processes) and the mere fact that a plasma source such as Tsai is capable of creating a hydrogen plasma at low pressure would not suggest the use of such plasma for the processes disclosed in Li, particularly if hydrogen is used (which would typically be expected to have lower processing rates for photoresist removal than oxygen which is more commonly used for stripping).

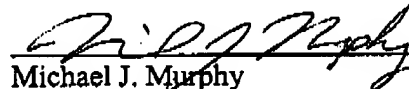
In view of the above, it is believed that claim 18 is patentable over Li, alone and in view of the other cited references. Claims 19-32 and 86-104 depend directly or indirectly from claim 18 and therefore are also believed patentable.

CONCLUSION

Reconsideration of the application is respectfully requested in view of the above amendments and remarks. It is Applicants' belief they are entitled to a letters patent and respectfully solicit the Examiner to expedite prosecution of this patent to issuance. Should the Examiner have any questions, the Examiner is encouraged to telephone the undersigned.

Respectfully submitted,

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